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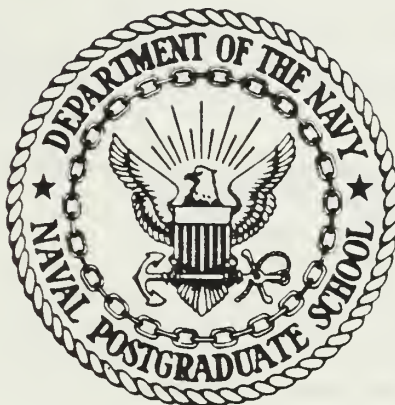
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# NAVAL POSTGRADUATE SCHOOL

Monterey, California



## THESIS

THE POLITICAL IMPLICATIONS OF EAST-WEST  
TRADE AND TECHNOLOGY TRANSFER

by

John Christian Benigno

December 1986

Thesis Advisor:

Robert E. Looney

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The Political Implications of East-West Trade  
and Technology Transfer

by

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from the

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December 1986

## ABSTRACT

This study is a review of the political and economic issues that are involved in East-West trade and technology transfer in the 1980's. Using unclassified sources, specific instances of technology transfer are evaluated and assessments as to its impact are made. The analysis provides evidence that the Soviet Union and their allies derive relative advantage from East-West trade--one which not only provides greater net economic benefits to the East, but also is creating serious security concerns in the West.

The main conclusion of the research undertaken is that the nature and severity of the problem have been greatly underestimated by both scholars and government officials.

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## I. INTRODUCTION

V.I. Lenin: "Comrades, don't panic, when things go very hard for us, we will give a rope to the bourgeoisie, and the bourgeoisie will hang itself."

Karl Radek: "But Vladimir Il'ich, where will we get enough rope to hang the whole bourgeoisie?"

V.I. Lenin: "They'll sell it to us!"

Lenin's quip that Western businessmen would sell him the rope he needed to hang them has become a cliché that exaggerates--but not by much--capitalist greed. The West has for years, in fact, sold the Soviet Union much of what was required to outfit one of the most remarkable and massive military buildups in history.

If Lenin were alive today, he might conclude with considerable delight that the nature of the capitalist had not changed notably since his time when they provided his nation its industrial base.

### A. BACKGROUND

Any discussion of East-West trade and technology transfer must include not only the economic ramifications of such events but the political implications as well. Realistic and idealistic costs/benefits must be analyzed to determine the actual net value/detriment towards the U.S. national interest. There are important questions that must

be answered. What is the importance of East-West trade to the East and the West? What is the relationship between trade and detente? Does the Soviet bloc gain more from trade than the West? What about the growing indebtedness of the East to the West? What policy options are open to the West? Is greater interdependence a desirable state of affairs? What leverage, what chance of influencing Soviet political and military postures, does their growing dependence on Western technology give us, and in what circumstances is it appropriate to use this leverage and influence?

The continuing objective of U.S. regulation of East-West trade has been to balance both the commercial benefits of trade and the objectives of detente against the need to safeguard U.S. security interests. Continuing controversy about the proper balance is inevitable: there is no objective test of whether such a balance has been achieved, the economic and political circumstances affecting East-West relationships are in constant flux, and the United States has no comprehensive East-West trade policy.

The past and present state of U.S. policy towards technology trade with Communist nations is, in large measure, a reflection of the ambiguity, uncertainty and dissension which have typified the U.S. overall posture towards the Communist bloc. The present policy guidelines are contained in the Export Administration Act (EAA) of 1979. The EAA is

the most recent embodiment of a long line of statutory pronouncements since the passage of the first Export Control Act in 1949 whose initial thrust was the establishment of stringent controls on all exports to Communist nations in response to the Cold War. The 1949 Act was amended and extended several times throughout the 1950's and 1960's, as controls were slowly relaxed.<sup>1</sup> This study will suggest alternatives for reforming existing policy as well as point out the problems and resulting security concerns as a result of present U.S. trade policy with the East and the flow of technology from the West to the East.

For purposes of this study, "East" will represent only the Soviet Union and its European allies (U.S. trade policies towards China and Cuba, for example, have a very different history and would raise very different issues). The "West" will be represented by the industrialized "capitalist" world, and includes the U.S., Canada, our European allies and Japan.

## B. HYPOTHESIS

This study will examine both the economic and political implications of the trade and technology exchange that exists between the East and West. The hypothesis examined below is that the manner in which these exchanges are

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<sup>1</sup>Gary K. Bertsch and John R. McIntyre, National Security and Technology Transfer: The Strategic Dimensions of East-West Trade, Westview Press, Boulder, Colorado, 1983, P. 119.

carried out benefit the East more than the West. A sub-hypothesis is that the West would, however, be worse off if this mutual exchange were to be completely terminated.

### C. METHODOLOGY

An examination of the hypothesis stated above will involve a critical review of the literature and examination of several different positions that have been taken by scholars, government officials and business people regarding the benefits and drawbacks to East-West trade and technology transfer.

The obvious results of trade and technology transfer, that is the economic considerations, will be discussed first, followed by the more elusive and clouded political implications of trade between two drastically different social systems. The discussions in this study are not intended to be a new approach to this subject--a new approach would obviously be a wrong appraisal--instead a new look at an old approach is provided.



## II. ECONOMIC CONSIDERATIONS

### A. INTRODUCTION

U.S. trade with the Soviet Union has always been an issue of great controversy, and is likely to remain a sensitive issue for the foreseeable future. As long as the Soviets remain our principal adversary, economic relations with their country will continue to be used as an instrument of national policy. The existence of this superpower rivalry does not however mean that East-West trade cannot exist--it does exist--for better or worse. The premise of this study, and more directly, this chapter, is that by redefining our goals and examining the major economic issues in trade with the Soviet bloc, the distribution of economic benefits can be made more equitable by improving our policies concerning East-West trade.

### B. SANCTIONS

On January 4, 1980, less than two weeks after the initial Soviet intervention in Afghanistan, President Carter imposed a series of sanctions designed to "make the Soviets pay a price for aggression." The sanctions included:

- 1) a ban on the licensing of high technology;
- 2) a partial embargo of U.S. grain exports;
- 3) curtailment of Soviet fishing rights within U.S. territorial waters;



- 4) a boycott of the 1980 Summer Olympic Games;
- 5) deferral of many U.S.-Soviet cultural and scientific exchanges;
- 6) delay in opening consular offices in Kiev and New York;
- 7) a request for Senate deferral of SALT II; and
- 8) a pledge to provide arms and aid to Pakistan.

As the President explained in a briefing to Members of Congress, the Administration had three options: military, political, and economic. The military option was ruled out because it was deemed "inappropriate" and "infeasible." Political sanctions, such as a resolution in the U.N. General Assembly condemning the intervention, were considered too mild. The U.S. opted for trade sanctions "to punish" the Soviet Union and to impress on the Soviet leadership the seriousness with which the U.S. viewed the invasion.

Then, facing a seriously deteriorating domestic situation, the Jaruzelski regime in Poland declared martial law on December 13, 1981. The U.S. responded ten days later by:

- 1) suspending Polish civil aviation privileges in the U.S.;
- 2) halting progress on renewing the Export-Import Bank's line of credit insurance to the Polish Government;
- 3) suspending the right of the Polish fishing fleet to operate in American waters; and
- 4) proposing to Western allies further restrictions on high technology exports to Poland.

By far the most damaging of these actions was the decision to cancel a \$25 million line of credit insurance for

short term loans to Poland that would have enabled Polish suppliers and banks to pay for imports from the United States. Without the Export-Import credits private lending to Poland stopped altogether.

When looking at the broadening web of East-West economic relations, it is generally accepted in this country as a positive development in world affairs as well as in our national interest. Trade is a normal aspect of international life. While we should not expect trade to reduce, much less eliminate, the wide political divergences between East and West, it is a valuable link between the two differing political and economic systems.

The concern in trade lies in the stated hypothesis that at the present time, the East has more to gain from trade and other economic relations than the West. This is best shown in simple terms--the East does not have as much as the West to offer in terms of markets of international trade as evidenced by the East's lopsided debt to the West. This should not be misinterpreted however. The West does benefit from trade with the East in terms of insuring fuller production, income from foreign sales, and benefits from reinvestment of capital, among other things. It is important to remember, though, that until the East has a product, resource, or service to offer the West, we will not realize the full benefit of this economic exchange. Soviet natural gas to Europe may be a resource to partially correct this

imbalance. On the other hand, however, the outlawing of Solidarity in Poland prompted still another economic penalty in the form of American efforts to block or delay the Siberian gas pipeline. The Reagan Administration's arguments against the project shifted from concerns of European energy dependence to moral injunctions against carrying on "business as usual" with a regime guilty of the heinous suppression of the rights of Polish workers. The Europeans' failure to cancel the project was interpreted in the U.S. as tacit consent of the Soviet policies in Poland and further divided the Western alliance.

#### C. EXPANSION INTO EASTERN MARKETS

During the past twenty-five years economic relations between the Western market economies and the Eastern European states have developed along with, but to a lesser degree than, East-West political relations. A trend towards a greater East-West economic interdependence is apparent as political and economic circumstances have caused or made possible a sharp increase in trade between the two groups of countries.

Some of the recent economic developments seen involving East-West trade are decidedly more distinctive and complex than those of the past. Exports to Eastern Europe and the Soviet Union in the 1970s have been financed by public and private credits to a much greater extent than in earlier periods. The resulting debt to Western governments and

banks is large in the absolute--in excess of \$60 billion--and in relation to the East's earnings of hard currencies. In addition, most of the Eastern European countries, including the Soviet Union, have entered into "industrial cooperation" agreements with private Western firms. These agreements, which are a limited form of direct foreign investment, reflect a continuing effort to devise ways to overcome the difficulties of conducting relations between market-oriented economies and centrally planned economic systems.

Western businessmen, however, often complain about the problems of trading with the East. The planned character of trade, the limited relevance of the pricing system to the market, the lack of currency convertability, the secrecy surrounding economic information, and the prevalence of barter or countertrade, all contribute to make business perhaps more awkward than elsewhere. Nevertheless, over the years the Council for Mutual Economic Assistance (COMECON) market has proved attractive to Western companies, offering them large-scale contracts, usually observed scrupulously by COMECON governments and affording a valuable outlet for such things as turnkey plants and food which would be hard to sell in the West. Few of these complaints are of strategic importance to Western governments, which ought to be able to rely on the wits of their businessmen to ensure that trade is not of unilateral advantage to the East (but, as will be



discussed later in this paper, it is amazing that some businessmen would sell their mothers short not to mention their governments and national interests).

One factor is worth noting in the conduct of East-West trade. This is the negotiating advantage which COMECON governments draw from their monopoly hold on foreign trade, both in buying and selling. Most COMECON foreign trade organizations, though in some countries their structure is changing, can still play Western companies off against each other. Their bargaining position is increased by the fact that they are responsible for applying the (theoretically at least) non-negotiable decisions of the Central Plan and have the full force of the government behind them. These advantages can produce very good bargaining results for COMECON countries. One graphic example is the Siberian pipeline contracts. The Soviet Union, by using the same negotiating team throughout, was able to play different Western countries off against each other and then play different companies from the same country off against each other. As the lowest bid for any part of a contract was automatically relayed to Western competitors, they successively underbid each other. According to Soviet sources, Western negotiators have in the years of negotiations been forced to cut their price originally quoted by up to 60 percent.<sup>2</sup>

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<sup>2</sup>Axel Lebahn, "The Yamal Gas Pipeline from the USSR to Western Europe in the East-West Conflict," Aussenpolitik, Vol. 34, No. 3, Autumn 1983.

It is not practicable or appropriate to set up national or international cartels in the West for the purpose of negotiating terms with the East, but the fact that the Soviet Union and other centrally planned Eastern economies can, because of the manner in which their economies are structured, drive a hard bargain on price, has a wider relevance when other factors like credit are weighed in the balance. If one assumes that the West does not intend to confer one-sided economic benefit on its major political and military adversary, the Soviet bloc, then something may well have gone wrong if, say, the Soviet Union can time after time negotiate the lowest price on a Western good and then import it on Western-subsidized credit!

Most Western governments have a policy of differentiating in favor of those East European systems of which they approve and, by implication, against those of which they disapprove. Eastern Europe has not been a uniform part of the Soviet bloc since the days of Josef Stalin, and any attempt by the West to pretend that it is has the obvious effect of driving Eastern Europe and the USSR together. Crude attempts by the West at differentiation have the same unwelcome effect. An example of this was Vice President George Bush's speech in September 1983, after visits to Hungary and Romania. He singled out those two countries for favorable distinction from both the rest of Eastern Europe

and the Soviet Union, which he openly criticized. This had the counter-productive result of embarrassing Hungary in particular.

Subtler means of differentiation exist. They are chiefly economic, not only because they have a lower political profile, but also because economic aid is important for countries embarking on economic reform.

This differentiation is bound to be a very fine dividing line between those countries for which a favorable distinction exists and those with a not-so-favorable status. The USSR having such a prominent position in the COMECON, is almost certain to get any technology that these favored Eastern countries might receive from the West due to the web of multiple socio-political factors and military ties. Nevertheless, exceptions have been made and Eastern Europe has received hi-tech items from the West, such as navigation equipment for a newly designed jet fighter/trainer built jointly with Yugoslavia and Romania known as the IAR-93 or Orao.<sup>3</sup> It should be recognized in the West that even if a favored bloc country wanted to, keeping technology passed to them from the West with a stipulation of not passing it on would be politically impossible. Where warranted,

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<sup>3</sup>David Buchan, "Western Security and Economic Strategy Towards the East," Adelphi Papers, No. 192, The International Institute for Strategic Studies, Autumn 1984, Heffers Printers Ltd., Cambridge, p. 48.



case-by-case exceptions for equipment of a less than overtly military nature could be made by the West.

#### D. TRADE GUIDELINES

An attempt by the West to develop a detailed and uniform economic policy for economic relations with the East would be a futile exercise that would have more exceptions to the rule than rules themselves. There are, however, some guidelines worth noting in dealing with the East; guidelines which will help sort out the economic goals while maintaining sights on our national interests. A single guideline could never be all encompassing to deal with all the circumstances and conflicting pressures facing Western governments. However, a collection of well researched and developed guidelines should provide a preferred economic and political course of action along with several possible alternatives to most any economic situation that might arise. Some possible broad guidelines that should be included in the West's repertoire might include:<sup>4</sup>

- The West should ensure that its trading with the East does not enhance Soviet military power and does not erode what technological lead the West has over the Soviet Union in weapons.
- The West should recognize that economic leverage cannot, of itself, curb Soviet military power, and that economic sanctions have little direct political influence over the Soviet bloc.

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<sup>4</sup>Buchan, "Western Security and Economic Strategy Towards the East," p. 50.

- Distortions in East-West trade which benefit the USSR should be avoided, as should any undue trade or commodity dependence on the Soviet Union. At the same time the West should do what it can to differentiate its economic policies in favor of reformist East European regimes.

Many Western policy-makers can agree on these guidelines in theory for these precepts are far easier to preach than to practice. The basic problem with these guidelines as with any set of ideas is 'consensus.' Rarely can any idea gain simultaneous support of governments, voters, and commercial lobbies in the West. It is this conflict of interest that divides not only the allies but groups and organizations within the individual Western countries that make such policy decisions difficult if not impossible in a democratic environment.

Western foreign and defense ministers realize the need to stem the flow of technology that the East has exploited and used in its military missions. The West generally accepts the Reagan Administration's definition of the technology problem, even though they quarrel with aspects of the proposed U.S. solution--the old "I suppose you are right but, let somebody else suffer the hardships of the plan" routine. Any plan that is designed to halt the technology leak to the East will almost certainly also hurt trade to the East which in turn will reduce money coming from the East--not a popular platform to take with voters who suffered a more severe recession in Europe and in fact are still feeling its effect long after the U.S. has recovered

for the most part. Put another way, Western taxpayers do not sense that the 'technology drain' is indirectly hurting their pockets and raising their taxes. What has real impact, however, is the prospect that trade in widely available commercial technology is going to be obstructed by security controls, the possibility that the U.S., in over-enthusiastic pursuit of controls against the Soviet bloc, will slam the 'technology tap' door to her own allies, and the fear that the West's free flow of scientific information will dry up in a more secure technology transfer climate--i.e., the Reagan Administration's attempted embargo on pipeline technology and the tightening of controls on export of computer hardware and software.

The concept of general economic denial or embargo towards the Soviet Union and its allies is considered in the West by most people as inappropriate, even in such a time of increased political-military tension as the mid-1980's. They suggest that an answer lies somewhere short of this concept and includes a blend of technology transfer control or censorship. A freer international market up to the point of denying the East military technology is certain to pay higher dividends than harsh sanctions that in the end will have little impact anyway. To support this thesis, recent history of East-West relations reveals few instances where economic pressure was successfully applied for political ends. A sanction is by definition a stick and not a carrot

ends. A sanction is by definition a stick and not a carrot --the West would likely meet with little success in presenting the USSR, as a superpower, with an economic sanction to influence its military or political behavior; e.g., U.S. sanctions imposed after the Soviet invasion of Afghanistan, or when the West imposed sanctions after martial law was established in Poland.

#### E. CONCLUSION

The West over the next decade will have an opportunity to rewrite the manual on East-West trade relations to which there will be a more mutual benefit as well as greater control of the shortcomings now being faced. The USSR has already seen four leaders in this decade, and with four of her six East European allies being led by men in their 70's, there is a certain period of leadership change approaching.

With the inevitable passing of this old guard, which has already begun with Gorbachev's arrival, new men will have new opportunities to change policy in the East. The West would be in a better position to influence the choices of these new leaders, if it had laid out its economic strategy in advance. The 'passive' aspect of this should be the imposition of appropriate technology controls, reduction in export credit subsidy and the avoidance of undue dependence on the Soviet Union for energy--just as the Soviet Union is seeking to reduce its dependence on Western grain. The 'active' part of the Western strategy should include

goods, partly by giving the East better (but controlled) access to Western markets, and a welcome for those Eastern Europe countries which want to join the Western world's economic institutions.

A strategy such as this would give the new guard of Soviet bloc leaders a clearer set of signals than they have had from the West in the recent past, and would also stand a good chance of winning domestic support from all sectors involved in international trade.



### III. POLITICAL CONSIDERATIONS

#### A. INTRODUCTION

It has often been said that the Soviets have more to gain from East-West trade than the United States, and in many instances their gain is at our expense. In an effort to further examine this popular notion among political economists that paint this dreary picture of East vs. West in the international trade game, let us examine some ideas of both theory and fact. First, it must be accepted that the East, the Soviets and their allies, do gain from East-West trade; this is a given anytime trade deals are voluntarily entered into, barring major errors and miscalculations. But theory and practice show us that, of the two parties to a deal, one may gain more than the other, and that skill and strategy in the process of bargaining can make a difference.

#### B. PRO-TRADE VS. ANTI-TRADE ARGUMENTS

To insure that the East does not take unfair advantage and more importantly take something for nothing from the West, we must examine the designs of export controls in the context of current East-West trade relations. The central issue of export control policy concerns the trade-off between economic benefits and the political and/or national security risks. To make that trade-off in a manner that

makes both economic and political sense, several questions must be answered:

1. How do our exports affect the enemy's military capabilities?
2. How do our exports (and their effects on the enemy) affect us?
3. What can export controls do about those effects? And what other effects do export controls have, or could they have?

To answer the first two questions we should weigh the pro-trade arguments against the anti-trade arguments. The pro-trade view sees trade benefitting us in many ways. First, by promoting communication through new economic channels should, in turn, increase political communication, mutual esteem, and allow a more effective understanding of the enemy's system. Also, providing mutually beneficial interaction in economic arenas may improve relations in the more conflictive domains of politics and security. Through economic interaction we may be able to foster the enemy's convergence towards our own economic and political practices.

The anti-trade version denies these benefits and even turns the tables to reflect a very different outlook on East-West trade. Trade allows the enemy to penetrate our system and invites us to entertain alien economic practices (while cooperating and to facilitate dealing with a socialist economic system--this can lead to a dependence on a product, such as a European dependence on Soviet oil, that



could subjugate a Western economy to Socialist economic practices)--both presumably undesirable. The alleged mutually beneficial economic interaction actually restricts national sovereignty. The ability of microcontracts to prevent macroconflicts is historically disconfirmed.<sup>5</sup>

Thus, trade with the East can be analyzed from many different angles and each approach can propose an argument that is either pro or anti-trade with convincing verbiage. Economic interests and needs clearly interact with geostrategic and military interests which in turn plays a major role in our national security. National security being a part of the national interest invites a careful review of any trade with the enemy that might in some way aid his military development or in some way compromise ours. The connection between economics and national security runs both ways. Economic strength is a necessary ingredient to provide the infrastructure and industrial complex to support a military power over a period of time. Military strength on the other hand can be used in a political strategy to realize some economic advantages. Arguments can be made that either military expenditures seriously detract from economic growth or military expenditures act as a catalyst and contribute favorably to economic growth. In any case, any technology or product traded to the East will at best

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<sup>5</sup>Before WWI, France and Germany were each other's chief trading partners; the United States was Japan's before Pearl Harbor!

reduce the expenditure required on R&D to develop the same technology without Western assistance or in the worst case provide the technology required to begin production and thus provide economic advantages that would not otherwise be available to their military-industrial complex. And, in an even worse case, the chance of the enemy improving on our technology and as a result gaining an advantage that might otherwise have cost him dearly in R&D dollars as well as time and national resources. This might someday be the difference between victory and defeat in military conflict. Gaining this so-called technological advantage or breakthrough is a real and continually possible development that worries the governments of the West. As Henry Kissinger warned all the way back in 1957 of "technological surprise," when the West enjoyed a decisive advantage, he said

there has been a great deal of discussion about the possible consequences of technological breakthroughs which may be achieved by either side, and, given the current rate of technological change, this factor presents a real problem . . . an adverse technological breakthrough is always possible.<sup>6</sup>

Analysts, government officials, and academics all agree that such a strategic breakthrough in weaponry could negate the strongest defense posture. In 1973, President Nixon, his Secretary of Defense, and the Director of Defense, Research and Engineering all stressed the importance and unsolved nature of technological breakthroughs (especially by the

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<sup>6</sup>Henry Kissinger, Nuclear Weapons and Foreign Policy, Harper and Brothers, New York, 1957, pp. 118, 128.

other side). Technological surprise is seen as the worst of the worst cases, with visions of unknown analogues to the atomic monopoly, this time under enemy ownership.<sup>7</sup> What better argument for export controls on certain technology? Several export control officers of this era are reported to have said in interviews that the fear of a Soviet technological breakthrough was the major reason for the continued existence of trade controls--even at the height of detente.

The purpose of these export controls was to delay the communist acquisition of military technology. The goal, as stated in several government documents,<sup>8</sup> was not pretending that these controls would deny the East that technology forever, as it was understood that this was impossible; nor was it to increase the monetary cost of technological capability, since other East-West trade had already greatly expanded in all directions and enabled the communist countries to save large amounts of money. The notion is that

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<sup>7</sup>See: Richard M. Nixon, U.S. Foreign Policy for the 1970's: Shaping a Durable Peace, A Report to Congress, U.S. Government Printing Office, Washington, D.C., 1973; Elliot L. Richardson, Statement of the Secretary of Defense Elliot L. Richardson before the Senate Armed Services Committee on the 1974 Defense Budget, p. 14, U.S. Senate, 93d Congress, 1st Session, 1973; John S. Foster, Jr., The Department of Defense Program of Research Development, Test and Education, FY 1974: Statement by the Director of Defense Research and Engineering, p. 27, Defense Subcommittee of the Appropriations Committee, U.S. Senate, 93d Congress, 1st Session, March 28, 1973.

<sup>8</sup>See Richard M. Nixon, U.S. Foreign Policy for the 1970's: Shaping A Durable Peace, a report to Congress, U.S. Government Printing Office, Washington, D.C., 1973.

certain goods, if exported freely, would provide the communists with technologies unobtainable by them at any price over some relevant time horizon, and this delay in communist procurement makes the U.S. deterrent more credible, insures the superiority of U.S. military forces, and reduces the possibility of technological surprise.<sup>9</sup>

### C. EXPORT CONTROLS

Export officials, when dealing with export controls designed to keep Western technology from the East, differentiate between two types of technology. First, what they refer to as "technology of the laboratory" tends toward pure science, in which the Soviets are considered our equal in most areas and superior in a few. Controls on the flow of this kind of technology are difficult to construct, since they occur in scientific journals and other publications, academic interchanges, professional conferences, and so forth. The other form of technology known as the "technology of the factory" is comprised of practical know-how, machinery, and processes that transform laboratory techniques into industrial production. In this form of technology the Soviets lag well behind the West and it is believed that controls on exports, commercial technology transfers, and turnkey plants are effective and feasible

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<sup>9</sup>Robert E. Klitgaard, National Security and Export Controls, Rand Corporation, Santa Monica, California, April 1974, p. 17.



measures to impede Soviet technological development. Export controls are then seen as preserving the West's technological advantage at the factory and not aimed at stopping Soviet scientific advances in the laboratory.

To answer the question of what effects export controls will have and how they affect our national interests must be looked at from both the West's and the East's point of view. Consider the example of guns and wheat being considered for export from the West to the East. We might first suppose that guns being of military value to the East should be restricted and that wheat contributing to their civilian nourishment could be safely exported to them. It is a well-known fact that the East produces weapons, including guns, quite efficiently, while growing wheat very inefficiently when compared to U.S. farmers. The wheat sales to the USSR would then save them money by buying wheat from the U.S. more cheaply than they could produce it themselves and as a result freeing more resources for eventual military use. Wheat shipments may permit the Soviets to keep chemical industries oriented towards munitions rather than fertilizers. It is therefore clear that in order to restrict all possible military gains by the East, we should export nothing to them and try to persuade our allies to do the same. This of course is not at all realistic and would be virtually impossible to orchestrate. And this is only one angle which we need to consider in this example. So what is

the correct combination of technology transfer and East-West trade? It is a delicate balance that must be adjusted and readjusted constantly. The U.S. has taken a firm position with regard to export controls--export controls are a national security matter and not subject to negotiations.<sup>10</sup> Even in the export of non-military items there is concern of breaches in our national security and thus a threat to our national interest. In 1964, then Secretary of Agriculture Orville Freeman, argued against agricultural exports to the USSR. He stated that

making our peaceful technology available (to the Soviets) would have the effect of releasing their scientists, engineers, and technicians for work on other and perhaps less peaceful projects. It would materially shorten the time needed for research and development, and could substantially increase their economic potential. It could hasten the time when the communists could more effectively infiltrate and influence the developing and uncommitted countries through aid programs. It could enhance their ability to provide aid to such countries as Cuba without imposing unacceptable deprivations on their own people in the Soviet Union.

#### D. CONCLUSION

Secretary Freeman's statement is shared with many and it may in fact have some value in maintaining the technology gap between the East and West, but I do not believe that this is a major consideration among many government analysts--the fact of the matter is that the United States and our allies are more intent in using export controls and

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<sup>10</sup>Richard S. Frank, "Trade Report/U.S. Sees Surplus, More Jobs in Early Years of Expanded Trade with the Soviet Union," National Journal, 1972, pp. 1799-1808.

economic sanctions as a form of economic leverage. This is like blowing into a hurricane--the East is no more bothered by these feeble attempts to influence their political actions than we would be if they threatened to cut off the flow of caviar and vodka--we would simply get them somewhere else, just as they do when we erect one of our trade barriers--usually from one of our allies or even from an American corporation more interested in dealing in the grey or black market and making a buck rather than supporting a government sanction. There will always be specific instances in which military action is neither feasible nor advisable, but in which moral outrage is not enough. In these circumstances economic actions may be appropriate and --even if only slightly--might act as a stick or carrot.

The sheer size and fundamental health (even in a severe recession) of the American economy is one of the greatest strengths of our foreign and security policy. It was not so long ago that the Arab oil embargo brought this country to a halt--an event that most agree strengthened us in the long run. Might not an embargo of technology to the East cause a similar metamorphosis to occur and thus improve our enemies' position? The use of the West's economic strength is a delicate matter and should be thought out thoroughly and coordinated with our allies and friends. Then, and only then, can the West hope to find the right combination of bilateral trade/mutual cooperation and economic restraint



with the East that will best serve our economic interests as well as our national interest.

#### IV. WESTERN TECHNOLOGY AND SOVIET MILITARY DEVELOPMENT

##### A. INTRODUCTION

As already discussed in Chapter III there are serious concerns surrounding East-West trade and the associated technology transfer that might aid the East in developing military-related industries. This chapter will look at specific technologies that are flowing eastward and also at the Soviet "war machine" and how it may have benefitted at the expense of Western technology.

For some period of time, we believed that Soviet weapon systems and military hardware were indigenous to the East. Forty or more years ago the Soviets received a generous helping of strategic technology from their allies, the United States and other Western nations. After the Second World War, the American assistance dropped off sharply, but like the U.S., the Soviets were recipients of the spoils of war in the form of German expertise gained from captured scientists and technicians. This infusion of German technology gave the Soviets the foundations for development of missile, radar and jet propulsion technologies. It is generally accepted that throughout the fifties the Soviets relied almost entirely on their own military-industrial ingenuity and apart from a few spectacular successes--such as the 1957 launch of Sputnik--the Communist camp lagged

well behind the U.S. and even some of the other Western industrial nations in military technology.

Throughout the 1970's, U.S. concerns were growing regarding a suspected military technology drain from the West to the East. U.S. Deputy Assistant Secretary of Defense Richard Perle stated in 1983 that the Reagan Administration was providing hard evidence supporting these assumptions based on KGB defections describing the inside workings of the Soviet military industrial complex.<sup>11</sup> The CIA had been claiming that since the late 1960's

the Soviets had acquired militarily significant technologies and critically important industrial Western technologies that were benefitting every major Soviet industry in research, development, and production of weapons systems.<sup>12</sup>

This is quite likely the cause, more than any others, of the narrowing of the Western lead over the East in such key defense-related areas as microelectronics and computers.<sup>13</sup> The result of all this is viewed by many U.S. officials as the cold reality that the U.S. and her allies have, for the past 25 years or so, unwittingly been developing weapons for

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<sup>11</sup>Buchan, "Western Security and Economic Strategy Towards the East," p. 11.

<sup>12</sup>"Soviet Acquisition of Western Technology"; Washington, D.C., CIA, 1982.

<sup>13</sup>U.S. Defense Department, "The Technology Transfer Control Problem," Report to Congress, Washington, D.C., DOD, 1983.

both themselves and the Soviet Union, and Western R&D might as well be considered a Soviet national asset.<sup>14</sup>

So, what has the USSR gained? Before we can quantify the impact, if any, on the overall security balance, we should first take a look at what the Soviet Union has gained, both legally and illegally, from the West.

While it is acknowledged that the Soviets depend far less on Western military technology today when compared to the immediate post-war period, the CIA claims that "today Soviet military designers carefully choose the Western designs, engineering approaches and equipment most appropriate to their deficiencies and needs."<sup>15</sup> They contend that the Soviets have also acquired military technology in areas such as microelectronics, and had they not purchased or in many instances "purloined" from the West, they would not have achieved their present technical level. As already discussed, this acquisition of Western technology has allowed the Soviet Union to expend less of her own resources than she would have otherwise done. An unclassified version of CIA and Department of Defense analysis<sup>16</sup> will give a clearer demonstration of this discussion and

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<sup>14</sup>Buchan, "Western Security and Economic Strategy Towards the East," p. 11.

<sup>15</sup>"Soviet Acquisition of Western Technology," p. 3.

<sup>16</sup>Soviet Acquisition of Western Technology, Washington, D.C., CIA, 1982 and U.S. Defense Department, The Technology Transfer Control Program, Report to Congress, Washington, D.C., DOD, 1983.

quite clearly supports the military application of my hypothesis.

Let us take a closer look at this so-called Soviet War Machine. What of its strategic weapon systems--and how about the Soviet bloc's Air Forces and Navies--are the Soviet tactical systems in fact "totally Soviet"--and finally do the Soviets and their allies develop their own microelectronics and computer systems or do they have access to everything from Radio Shack on up to sophisticated IBM military hardware and software that might not even be available to some of our allies? The unclassified version from the government is disturbing if not infuriating to think that our tax system is in reality subsidizing the Union of the Soviet Socialist Republic's Army, Navy, Air Force, and Rocket Missile Forces! Imagine how the story reads in the classified version! Because of the classification of the examples that will be presented below, some will be given on simply conjecture although some are clearly based on hard evidence.

## B. STRATEGIC SYSTEMS

There is a striking similarity noted between the silos for the U.S. Minuteman intercontinental ballistic missile (ICBM) and the SS-13, the first solid-fuel Soviet ICBM. The CIA puts this down to the "probable" acquisition of U.S. documents.



Somewhat stronger claims are made for the possible contribution of Western precision micro-ball-bearings in improving Soviet missile guidance through better gyroscopes and accelerometers. This chiefly concerns the sale in 1972 to the Soviet Union of 168 precision grinding machines from the Bryant Grinder Corporation of the U.S. The Soviet precision-bearing industry had until then lagged well behind that of the West and without the Western equipment it is highly unlikely that the Soviet missile guidance capability would have allowed them to acquire both the quality and quantity of missiles that they in fact produced during the 1970's with the assistance of the United States.

Obviously the accuracy of Soviet ICBM's is an extremely sensitive matter to the U.S. Yet a technology seemingly as harmless as a ball-bearing has allowed the Communist World to achieve nuclear parity with us. To regain superiority, if it is even possible, will require billions of dollars and the raising of the Arms Race to the next level--all because of our carelessness with some harmless little round metal balls.<sup>17</sup>

#### C. AIRCRAFT

The CIA believes that the Soviet Union is keen to get hold of Western aircraft technology, partly to develop countermeasures but primarily to imitate and learn from the

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<sup>17</sup>Buchan, "Western Security and Economic Strategy Towards the East," p. 14.

technology itself. She obtained plenty of hardware and data from aircraft shot down, captured or left in Viet Nam, and continues to try and acquire plans and drawings, particularly of U.S. transport and wide-bodied jets, as well as information about manufacturing techniques. She apparently acquired early draft plans of the Lockheed C-5A military transport aircraft. At one point a team of Soviet "civilians" visited the Lockheed, McDonnell-Douglas and Boeing plants in the U.S. out of a declared interest in possibly buying some wide-bodied jets. U.S. officials later claimed that the "civilian" visitors included a three-star general in the Soviet development command, and that they wore special shoes to pick up traces of the special metals used in U.S. aircraft-building for subsequent analysis.<sup>18</sup>

Disturbing similarities can be seen in many Soviet state-of-the-art aircraft and U.S. aircraft. The Soviet CONDOR jet transport is suspiciously similar to Lockheed's C-5A GALAXY--lengths, wingspans and tail heights of the CONDOR are all within inches of the GALAXY's. There is a remarkable similarity between the Il-86 jet transport and the Boeing 747, the U.S. AWACS and its new Soviet counterpart, the Il-76 CANDID and the C-141B STARLIFTER, the An-12 CUB and the Lockheed C-130A/H HERCULES, and the Soviet ASW long-range patrol aircraft the Il-38 MAY and Lockheed's P-3C

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<sup>18</sup>Buchan, "Western Security and Economic Strategy Towards the East," p. 14.

ORION are so similar that their parts are almost interchangeable. The one thing common about all these aircraft other than the obvious is that the U.S. counterpart was always designed and produced before the Soviet version. And if this is just a coincidence, why have we not seen the Soviets come up with prototypes that never make it into production like we see in the West? Because the Soviets are quite content, in my view, to let the Capitalist World spend all the R&D dollars, develop the technology and conduct the cost/benefit analysis and only after the system is a proven success will the Soviets then buy, borrow or steal the technology for their own use without any of the associated expenses and headaches. Still on the horizon, the USSR is building a new bomber which is reportably very similar to Rockwell's B-1B Bomber and the Soviet space shuttle, which is nearing its launch date, is amazingly similar to our own multi-billion dollar space fleet. How much money did the Soviets save in this case? Billions, I submit.

This can hardly be considered conclusive evidence on its own, but when combined with intelligence that has not been presented in this report due to its classified nature, we can clearly see that the Soviets' tactics in collecting Western technology in the Aerospace field has not only saved them billions of dollars, precious resources, and valuable time, but it has also allowed them to close the technology

gap using Western technology and in some cases even improving on it.

#### D. NAVAL SYSTEMS

The Soviets have sought to gain access to advanced Western technology in naval weapon systems--such as catapult equipment for aircraft carriers, sensor systems such as hull-mounted sonar systems and sonobuoys for anti-submarine warfare--and less advanced equipment which would free resources for more sophisticated organic naval weapon systems and more pressing naval programs, such as ship repair facilities. The Japanese, for example, sold the Soviets a very large floating dry-dock for civil use in 1978, but almost immediately after delivery it was not surprisingly diverted for military use in support of the Soviet Pacific fleet at Vladivostok. The Soviets bought a similar dry-dock from Scandinavia, and it ended up with the Soviet Northern fleet at Murmansk in 1981. These dry-docks are said to be large enough to accommodate several small warships at a time, and are the only dry-dock facilities for the Pacific and Northern fleets capable of accommodating the Kiev-class aircraft carriers.

The Soviets have a tremendous capability to project power with amphibious beach landings. This ability has been enhanced once again by Western technology. The Soviets acquired sophisticated roll on/roll off (RoRo) ramps developed in Britain, France, and Finland, and directly

incorporated in Finnish ships built for the USSR. The Soviet Union has also bought oceanographic ships from Western yards, and, though U.S. equipment for them was embargoed because of security reasons, alternative technology was available and supplied by other Western countries. If this was not enough, it is well-known by the entire Western world that not only do the Soviet oceanographic fleet have a very important military role, but in time of war these ships will actually be the front line of the Soviet submarine warfare effort. It should be pointed out, if it is not already clearly evident, that be it a research vessel, a fishing boat, a cargo container ship or even a cruise ship, they all have a definite military mission and any Western technology that is transferred to the East with supposedly only civil maritime use intended can in the end be traced to contributing to the Soviet military effort, either indirectly, or surprisingly enough more often directly, against the West.

As with Soviet aviation, the Soviet Navy also has some peculiar and curious similarities in weapon system design when compared to Western designs. The Yankee SSBN submarine, the backbone of the Soviet SLBM force for years, was probably not just a coincidental twin of the American Los Angeles class SSBN. With the Soviet introduction of American "style" aircraft carriers we also see similar support technologies as already mentioned in catapult gear



as well as systems and tactics to support a carrier battle group such as Western "style" underway replenishment and dispersed battle group formations.

The Soviet maritime strategy is clearly different from that of the West and therefore the similarities are not likely to be as blatantly obvious as they are in other areas of Soviet military and industrial interests, but, nonetheless, Soviet exploitation of reckless Western concern for the security of its technologies will take place and find a place in weapon systems directed against the West in which these technologies were born.

#### E. TACTICAL SYSTEMS

According to the CIA, Western tank, anti-tank, and air defense systems have been of interest to the Soviet Union which has sought to design countermeasures. According to the CIA, the Soviet SA-7 heat-seeking, shoulder-fired anti-aircraft missile contains many features of the U.S. Redeye missile. In fact, some sources speculate that the SA-7 might actually contain electronic hardware in the form of circuit boards, electronic components, and other sub-systems that were actually produced in the West! The United States is also concerned over the Soviet Union's acquisition of Sidewinder missiles through its espionage channels a few years ago and the effect that this could have not only on Soviet missile technology, but Soviet anti-missile capabilities against Western missiles as well.

## F. MICROELECTRONICS AND COMPUTERS

The CIA claims that the Soviet Union now has enough Western equipment and knowledge to meet all of its military microelectronic needs and about fifty percent of her total microelectronic needs. Sonobuoys, which are often dropped by Soviet planes, ships, and submarines in large numbers and often recovered by the West, have provided Western analysts a valuable and accurate look at Soviet microelectronic technology and have revealed numerous sobering surprises. One such sonobuoy recovered by a group of boy scouts in Puget Sound was marked 'PROPERTY OF THE USSR ACADEMY OF SCIENCES' (in English) and was evidently used to track U.S. Trident submarines to and from their Puget Sound base.<sup>19</sup> The electronic components inside were reported as being of U.S. design, to the point of replicating some known defects in the U.S. components. Another Soviet buoy was said to have U.S.-designed components which were planned, but not yet incorporated into, U.S. sonobuoy designs.<sup>20</sup>

The Soviet RYAD series computer is reported to be based on the IBM 360 and 370 designs and the CIA reports that the Soviet Union and her allies have, since the early 1970's, apparently bought more than 3,000 Western manufactured

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<sup>19</sup>Buchan, "Western Society and Economic Strategy Towards the East," p. 15.

<sup>20</sup>Buchan, "Western Security and Economic Strategy Towards the East," p. 15.

minicomputers, all quite legally, and are now using them in military-related operations.<sup>21</sup>

#### G. MILITARY IMPLICATIONS

As discussed above, the U.S. government has concerned itself of late with the continuing military build-up in the Soviet Union and the relationship this build-up has with East-West trade and technology transfer. President Reagan has argued that the Soviet military effort was benefitting significantly from the acquisition of U.S. and Western technology. Secretary of Defense Caspar Weinberger warned that the Soviets "have organized a massive, systematic effort to get advanced technology from the West. The purpose is to support the Soviet military buildup."<sup>22</sup>

The Western governments would be well-advised to heed Secretary Weinberger's warning. It is in the Reagan Administration's belief that the Soviets are bent on attaining a technological superiority over the West and they call attention to the shrinking gap of Western technological superiority. The Soviets have taken advantage of the fact that it has had access to Western technology both through legal and illegal means. The Soviets, through deception of its true purpose, have gained technology it said was destined for

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<sup>21</sup>Buchan, "Western Security and Economic Strategy Towards the East," p. 15.

<sup>22</sup>Caspar Weinberger, "Technology Transfer to the Soviet Union," The Wall Street Journal, January 12, 1982, p. 32.

industrial objectives and in fact directed towards their military programs. What they cannot obtain legally is often acquired instead through covert means. The Reagan Administration has stressed that the absence or weakness of Western technology export controls has allowed the East access to Western technology on an unprecedented scale.

Observers are quick to point to the evidence in hard facts--how else can a nation with only forty percent of the GNP of the United States, with poor indigenous technology, and general inefficiency in its production sector, outproduce the United States in every category of conventional and nuclear weapons?<sup>23</sup> Dr. Miles Costick, President of the Institute on Strategic Trade, told the U.S. Senate Committee on Governmental Affairs that it is possible because of the process of East-West trade, i.e., the West through trading with the East is actually helping the Soviets outpace the United States in weapons production! As a result, he said, the Soviet Union has seized a technological lead from the United States in the following critical areas related to military systems: titanium fabrication, ABM battle management, ICBM "cold launch" capability, command-control-communication (C<sup>3</sup>) countermeasures and intelligence, air defense missiles, anti-ship missiles, artillery rocket

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<sup>23</sup>Costick, Miles M., before the U.S. Senate Committee on Governmental Affairs, September 24, 1980.

launchers, chemical/biological warfare, mobile ballistic missiles, ICBM payloads and yields, and more.

#### H. CONCLUSION

In 1977 the U.S. military services provided lists of the militarily critical technologies (MCT) that were part of current and projected weapon systems. Congress endorsed these lists and initiated a critical technologies approach to export controls in the Export Administration Act of 1979. There is no simple and always infallible method in dealing with export controls and technology transfer. There are more exceptions to the rules than there are rules in this area of tremendous strategic importance--to both sides! The MCT approach, while far from perfect, should be seen as a useful tool for calling attention to what is really critical to the national interest and should be controlled. The MCT list will help stem the flow of technology to the East that could contribute directly to its military capabilities. The Coordinating Committee for Multilateral Export Controls (COCOM) countries, by observing this list, will ensure that the Soviets are not able to simply go to our allies for technology that we have restricted from Eastern consumption. This has been one of the highest priorities of the COCOM, and the member nations committed themselves to preserving the West's technological lead at a high level meeting in Paris in January 1982. Through actions like this, the United States and its allies hope to maintain a



technological superiority in their weapon systems to preserve a credible counterforce to the quantitative superiority of the Warsaw Pact.

## V. TECHNOLOGY TRANSFER BETWEEN THE SUPERPOWERS AND THE THIRD WORLD

### A. INTRODUCTION

Since peaceful coexistence between the Soviet Union and the Western nations has gained prominence the USSR has sought ways to compete for influence in the Third World. Military assistance to the developing nations has emerged as a key element in Soviet-American rivalry.

The Soviet's foreign policy towards the Third World includes extensive efforts to penetrate the political barriers through economic aid. However, to a greater degree and quite a bit more covertly has been their aggressive military aid program which we have seen marketed effectively and developed into a successful foreign policy vehicle which they have used to gain favor with the developing countries of the world. The West cannot, however, say that they do not use carrots of economic and military aid as the Soviets do. We see both superpowers courting the Third World with bouquets of planes and guns. This chapter will look at these transfers of technology, subsequent re-transfers of technology to the other camp, the consequences that this breach of technological security to the enemy--East and/or West--produces, and the steps that might be used in the West to keep our losses to a minimum.

## B. SUPERPOWER ARMS TRANSFERS TO THE THIRD WORLD

The Soviets have placed a high degree of importance on its "drive" into the Third World with its military aid diplomacy (see Table 5.1). Since 1955 the USSR has poured some \$6 billion in arms into twenty-five developing nations around the world. In the Middle East this massive arms flow contributed to the outbreak in June 1967 of the third Arab-Israeli war.<sup>24</sup> In Asia \$1 billion in Soviet weapons strengthened Indonesia in its confrontations with the Netherlands and Malaysia. The world was given an example of Soviet-Chinese estrangement when the Soviet-equipped Indian forces faced Chinese communist troops along the Himalayan frontier. In African countries such as Algeria, Libya, and Somalia, to name but just a few, they enjoy bullets courtesy of Moscow. In Central America we see Soviet influence spreading from the seed they planted twenty-five years ago in Cuba.

The United States, on the other hand, has also provided an almost unlimited supply of arms to the developing countries of the world in direct competition with the Soviets to keep the Third World from sliding into the East's camp. Between the two major alliances, eighty-eight percent of all arms exported throughout the world were manufactured by NATO members, including France, and the Warsaw Pact. France is

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<sup>24</sup>Wynfred Joshua, Arms for the Third World, The Johns Hopkins Press, Baltimore, Maryland and London, 1969, p. 1.

TABLE 5.1

SHARES OF EXPORTS OF MAJOR WEAPONS TO THE  
THIRD WORLD REGIONS BY SUPPLIER, 1962-81

(Percentages are based on SIPRI trend indicator values, as expressed in US \$ million, at constant (1975) prices)

Country*	1962-66	1967-71	1972-76	1977-81
USA	29	34	38	37
USSR	42	42	33	33
France	9	7	10	12
Italy	1	1	2	5
UK	12	10	9	4
Others	7	6	8	9
TOTAL	100	100	100	100
TOTAL VALUE	7,870	14,583	25,755	47,829

\*Countries are listed in rank order according to their shares for 1977-81.

the world's third largest arms supplier. Close behind in fourth, fifth and sixth places are the United Kingdom, West Germany and Italy, respectively. Non-Soviet Warsaw Pact countries contribute only 16 percent to the total Warsaw Pact arms exports. Clearly, the Soviet Union dominates Warsaw Pact arms exports. By comparison the United States' arms exports were roughly equal to the combined arms exports from other NATO countries<sup>25</sup> (see Table 5.2).

### C. ARMS TRANSFERS TO THE MIDDLE EAST

During the period 1979-1983, fifty-five percent of the world's total of arms transfers were directed to the Middle East and Africa, the world's two poorest regions, whose combined 1983 GNP was less than 6 percent of the world's total. Of interest to strategists and those who concern themselves with the military balances and security within these regions is the remarkable increase from 24 percent in 1972 of the total of world arms exports to the Middle East and Africa just before the first major oil crisis, to the aforementioned 55 percent since 1979. Increased availability of cash from higher oil revenues, coupled with the Soviet penetration of the area through arms transfers to such countries as Algeria, Libya, Ethiopia, Angola, Iraq, and Syria, have radically increased the share of these two regions in

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<sup>25</sup>U.S. Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers 1985, ACDA Publication 123, August 1985, p. 18.



TABLE 5.2  
ARMS EXPORTS TO THIRD WORLD COUNTRIES  
1975-1979 (PERCENT)

	ACDA	SIPRI
USSR	37.6	30.0
USA	30.5	41.6
France	7.6	10.3
UK	4.7	6.1
FR Germany	4.2	1.5
Italy	2.9	3.8
Others	<u>12.5</u>	<u>6.7</u>
	100.0	100.0

Sources: WMEAT (World Military Expenditures and Arms Transfers), 1970-79, p. 127.  
SIPRI Yearbook 1982, pp. 192-193.  
ACDA figures based on current dollars; SIPRI figures based on constant U.S. dollars.

the world's arms imports<sup>26</sup> and adversely affected the political climate and stability of the area.

What we see in the Middle East and Northern Africa is the emergence of political butterflies from the cocoons of what only 15 years ago were the economic basketbases and the militarily insignificant caterpillars of the world. This rapid growth and development has been a result of the industrialized world showering these countries with economic aid and courting them with military assistance to ensure that the strategic value of their natural resources, more directly--their OIL--remains available and accessible even during conflicts within the region. This has resulted in the desire by both Moscow and Washington to arm their respective allies in the oil rich regions to the hilt enabling them to not only protect themselves, but also protect the interests of the superpowers themselves. Thus the perfect opportunity for technology re-transfer to one's respective enemy is set up through these new regional powers not yet sure if they should be on the backs of camels or in the cockpits of F-16 and MIG-25 fighter aircraft. Where twentieth century technology has replaced medieval ways in a scant fifteen years, it is easy to understand the problems associated with technology transfer security. Since the East is so intent to let the West do much of the R&D on its

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<sup>26</sup>U.S. Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers, 1985, p. 18.

weapon systems, the Middle East and North Africa have become a natural bargain basement for Moscow in collecting Western military and industrial technology for reverse engineering projects and the like.

The Soviets and their Russian Tsar predecessors have looked for a presence in the region for a long time. More than two and one-half centuries ago Peter the Great dreamed of extending his empire's influence into the Middle East. His successors tried from time to time to realize that vision. During much of the nineteenth century the Russians competed with the major European powers in the Middle East, but by the turn of the century Britain had emerged as the most powerful external influence in the region and retained that position until the end of World War II.

The postwar period brought renewed Soviet efforts to penetrate the Middle East. The Soviet rival became primarily the United States, while the impact of the British and French presence gradually grew weaker. In the contest between the United States and the Soviet Union, military assistance and economic aid became increasingly important elements in the Middle East. Between 1955 and 1968 the Soviet Union channeled about \$3 billion in arms aid to the Middle East, or almost fifty percent of its total military assistance to the developing world<sup>27</sup> (see Table 5.3).

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<sup>27</sup>Joshua, Arms for the Third World, p. 7.

TABLE 5.3  
SHARES OF IMPORTS OF MAJOR WEAPONS  
BY THE THIRD WORLD  
(BY REGION, 1962-1981)

Percentages are based on SIPRI trend indicator  
values, as expressed in US \$ million,  
at constant (1975) prices

Region*	1962-66	1967-71	1972-76	1977-81
Middle East	28	46	51	44
Africa	15	9	16	24
Far East	31	27	15	13
Latin America	12	7	11	11
South Asia	14	11	7	8
TOTAL	100	100	100	100
TOTAL VALUE	7,870	14,583	25,775	47,829

\*Regions are listed in rank order according to their shares for 1977-81.

#### D. VEHICLES OF TECHNOLOGY TRANSFER

In 1955 Egypt became the first country with which the Soviet Union established a military aid relationship. Through the years, Cairo remained on the receiving end of bountiful Soviet arms aid packages. Of all military aid recipients Egypt received the largest dollar value of Soviet and Eastern European shipment in the region, estimated at the outbreak of the Arab-Israeli war in June 1967 at approximately \$1.5 billion.<sup>28</sup> To fill the vacuum and military imbalance left by the Soviet arms aid to Egypt, the United States supplied Israel with arms as well. Both Moscow and Washington, aware of the delicate situation and the possibility of an escalation in the region that could possibly bring a direct Soviet-U.S. confrontation, worked as if walking on egg shells to avoid such a confrontation. The details of the Arab-Israeli war are beyond the scope of this paper, but the consequences of the Soviet aid to Egypt and Egypt's subsequent change of political camps to the West's, is another example of a method that provided an avenue of technology transfer from East to West. Little new technology was gained by the West's examination of the Soviet-made hardware, but a look at Soviet technology provided the West with intelligence that would allow us to make an appraisal of how effective Western hardware would be against the East's. A similar transfer, but of much greater value,

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<sup>28</sup>Joshua, Arms for the Third World, p. 8.



occurred after the U.S. withdrawal from South Viet Nam--the military hardware left behind was a virtual treasure chest of technology for the North Viet Nam's big brother in Moscow (yet another example of how the West comes up on the short end of the technology transfer process--the Soviets were able to gain not only intelligence from the material left in Viet Nam, but also new technology--technology that would allow the Soviets to improve on their own, again, at our expense!).

Another vehicle for technology transfer is through commercial trade channels. But, despite the rapid increase of East-West trade, the United States accounts for only fifteen percent of total Soviet imports, and less than nine percent of the advanced technology purchased by the Soviets<sup>29</sup> (see Table 5.4). Agricultural commodities account for 75-80 percent of all American exports to the Soviet Union (see Table 5.5).

#### E. CONCLUSION

This chapter has shown how the United States and the Soviet Union have competed for influence in the Third World through arms transfers and other military and economic aid. The instability that is usually associated with Third World Governments has provided unique vehicles for technology transfers between the superpowers--albeit unintentional and

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<sup>29</sup>Gordon B. Smith, The Politics of East-West Trade, Westview Press, Boulder, Colorado and London, 1984, p. 4.

TABLE 5.4

U.S. HIGH TECHNOLOGY EXPORTS TO THE COMMUNIST COUNTRIES AND TO THE WORLD, 1981  
(Millions of U.S. Dollars)

	Total Exports	Manuf. Exports	High-Tech Exports	High-Tech Exports As % of Total	High-Tech Exports As % of Manuf.
Cuba	0.6	0	Neglig.	1.1	1.1
P.R.C.	3598.6	1134.9	124.5	3.5	11.0
Yugoslavia	645.4	379.3	82.1	12.7	21.7
Bulgaria	258.1	50.2	6.6	2.5	13.1
Czechoslovakia	82.4	22.5	9.6	11.7	42.8
G.D.R.	295.6	9.5	2.6	0.9	27.9
Hungary	77.5	64.3	10.6	13.7	16.5
Poland	680.5	59.1	15.6	2.3	26.3
Romania	503.9	52.7	17.2	3.4	34.6
U.S.S.R.	2357.0	586.0	56.5	2.4	9.6
Total Communist Countries	8505.8	2359.0	325.3	3.8	13.8
World	225,776.5	154,935.0	36,131.4	16.0	23.3

SOURCE: Department of Commerce from U.N. Series D Trade Data

TABLE 5.5

## U.S. TRADE WITH THE U.S.S.R., 1972-1982

Year	U.S. EXPORTS		U.S. IMPORTS		
	Total	Agricul- tural	Nonagri- cultural	Total	Agricul- tural      Nonagri- cultural
1972	542	430	112	88	4      84
1973	1,191	920	270	204	5      199
1974	607	300	308	334	9      326
1975	1,834	1,133	701	243	7      236
1976	2,306	1,487	819	215	8      206
1977	1,621	1,037	584	221	11      210
1978	2,249	1,687	563	530	12      517
1979	3,604	2,855	749	873	15      858
1980	1,510	1,047	463	431	10      421
1981	2,430	1,665	765	357	12      345
1982	2,584	1,850	734	229	11      218

1 No adjustments made for transshipments.

2 Preliminary.

SOURCE: USSR World Agriculture Regional Supplement.

U.S. Department of Agriculture, Economic Research Service,  
Supplement 1 to WAS-31, page 14.

at times damaging to the security of the source nation. The political benefits for the time being, anyway, seem to outweigh the security risks involved in competing for a presence in the Third World by providing military and economic aid in return.

## VI. SOVIET TRADE WITH THE WEST

### A. INTRODUCTION

The composition of U.S. trade with the Soviet Union contrasts dramatically with that of other Western nations. Since 1973 the largest Western trading partner with the Soviet Union has been the Federal Republic of Germany. German exports to the U.S.S.R. constitute over twenty percent of all Soviet imports, followed by Japan, the U.S., France, and Italy. Germany provides almost one-third of all high technology purchased by the Soviets, followed by Japan, France, Italy, Finland, Great Britain, Switzerland, Sweden, and the United States.<sup>30</sup>

### B. SOVIET EXPORTS TO THE WEST

Soviet exports to Western Europe and the United States, although small in total volume, are not inconsequential. The Soviet Union is the world's largest oil and gas producing country, currently averaging more than twelve million barrels of oil per day. The Soviet Union ranks second behind Saudi Arabia for total oil and gas exports. In 1979 the Soviets exported 43 million metric tons of oil to Western countries, earning an estimated \$7 billion.<sup>31</sup>

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<sup>30</sup>Smith, The Politics of East-West Trade, p. 4.

<sup>31</sup>Smith, The Politics of East-West Trade, p. 5.



Germany relies on Soviet gas for 14-17 percent of its gas consumption, while Italy draws almost 29 percent and Austria 59 percent of their gas from the U.S.S.R.<sup>32</sup> The Europeans are actively seeking to expand gas deliveries with the construction of the Yamburg pipeline. The pipeline will extend from the giant gas fields of the Yamal Peninsula in northwest Siberia 3,600 miles to Western Europe. The project, which is estimated to cost \$15 billion, will increase the level of Soviet gas used by Germany, Belgium, Italy, and France to almost 30 percent.<sup>33</sup> Although they are hesitant to increase their dependence on Soviet energy sources, the West Europeans feel that it is in their best interest to diversify their portfolio of energy suppliers and lessen their reliance on OPEC. The United States does not import oil or gas from the U.S.S.R., although a liquified natural gas project was considered but killed in 1974 by Congressional restrictions on extending credits to the Soviet Union.<sup>34</sup>

The Soviets, however, do export to the U.S. many rare metals and ores, some of which have direct strategic uses. Gold bullion accounts for almost two-thirds of American imports from the Soviet Union. The Soviets export gold to pay for American grain and technology. The Soviets also

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<sup>32</sup>Smith, The Politics of East-West Trade, p. 5.

<sup>33</sup>Smith, The Politics of East-West Trade, p. 5.

<sup>34</sup>Smith, The Politics of East-West Trade, p. 5.

export to the U.S. many rare metals and ores, some of which have direct strategic uses. According to the Commerce Department's report on Soviet-American trade for 1980, the U.S. imported more than \$43.5 million in Soviet uranium, or ten percent of U.S. imports from the Soviet Union that year.<sup>35</sup> The Soviets also export to the U.S. chromium and vanadium, used in hardening alloys for armor plate; platinum used in computer microchips; and rhodium and palladium widely used catalysts with applications in fuel refining.<sup>36</sup> By contrast, the export of American uranium or strategic metals to the Soviet Union is banned for obvious political reasons.<sup>37</sup>

#### C. SCIENTIFIC COOPERATION

The United States benefits not only from trade with the Soviet Union, but also from cooperation in the fields of science and technology. At the high point of detente eleven bilateral science and technology agreements were signed between the U.S. and the U.S.S.R. encompassing some 300 projects. The most heralded example of U.S.-Soviet scientific cooperation was the 1975 Apollo-Soyuz joint space flight. These scientific projects have proven to be mutually beneficial. For example, experiments were

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<sup>35</sup>Smith, The Politics of East-West Trade, p. 5.

<sup>36</sup>Smith, The Politics of East-West Trade, p. 5.

<sup>37</sup>Smith, The Politics of East-West Trade, p. 5.

conducted in Moscow on a magneto-hydrodynamic device manufactured by Soviet engineers, utilizing a U.S.-produced 40-ton superconducting magnet. The data resulting from the experiments will enable American scientists to overcome several engineering problems. As a result of another joint research project the U.S. saved an estimated \$10 million and two years of research by cooperating with the Soviets on mirror fusion.<sup>38</sup> More recently, and with less success was the cooperation and assistance provided to Moscow by the West in the Chernobyl nuclear accident in fighting a nuclear fire and treating radiation injuries and sickness. Other areas of cooperation include weather forecasting, germplasm research, biomedical problems of manned space flight, remote sensing of agricultural crops and other vegetation, oceanographic research, plasma physics, and treatment of heart attack patients using nitrous oxide and hyaluronidase, to name a few. However, in order to express official censure over the Soviet invasion of Afghanistan and the imposition of martial law in Poland, the Reagan Administration announced that the cooperative agreements with the Soviet Union in science and technology would not be renewed when they expired in 1982 and 1983.<sup>39</sup>

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<sup>38</sup>Smith, The Politics of East-West Trade, p. 6.

<sup>39</sup>Smith, The Politics of East-West Trade, p. 6.

#### D. WESTERN SECURITY CONCERNS

So, in 1986 and into the foreseeable future, East-West trade and technical cooperation are stunted due to the political implications of the time. This has, according to the CIA, caused a stepped-up effort by the Soviets to keep Western technology flowing eastward through more covert and devious methods--the Soviets are determined to continue at least a one-way technology exchange with the West in spite of our efforts, or more correctly stated, probably with more vigor because of the political differences that have caused the disappearance of the detente era exchange that both sides seemed to enjoy in the 1970's.

A legitimate concern regarding East-West commercial relations is the possibility that the Soviets may divert Western technology to military applications. Donald J. Goldstein estimates that as many as 150 Soviet weapons systems contain Western technology. What has been dubbed "dual use" technologies are the areas of interest to Goldstein and other government officials that represent the single most troublesome aspect of export controls. For example, in 1981 the Soviets placed an order with a California company for a machine that tests the hardness of concrete structures. The instrument is normally used in testing the hardness of concrete bridge abutments, building foundations, and walls. During the export license review that is routine for all high technology sales to East

European countries and the U.S.S.R., Defense Department analysts discovered that the instrument utilized a technology similar to that employed by the U.S. Air Force in testing the "hardening" of missile silos. The license was denied.<sup>40</sup>

Some dual use technologies have very narrow and specific uses, while others have a broad range of applications. For example, in 1975 several Western corporations contracted to build a giant truck factory along the Kama River in the Soviet Union. U.S. intelligence experts now believe that trucks manufactured at the plant were used to haul Soviet troops and supplies into Afghanistan. Although trucks can be used in military operations, they are not generally considered "military hardware."<sup>41</sup>

The Department of Defense has become more interested in East-West economic relations. Secretary of Defense Caspar Weinberger recently stated

The ability of the United States and its allies to respond to the threat from the U.S.S.R. and Warsaw Pact countries is dependent directly on the technological superiority of the West. Our forces have fewer men and weapon systems than our adversaries, and the West has become comfortable with the idea that it can maintain the balance of power with fewer, quantitatively superior weapons. But the Soviet/Warsaw Pact threat has increased as Soviet technology has advanced and the technological superiority of the West has eroded. While the Western technological lead continues to be sufficient to maintain a viable military balance for the present, there is grave concern that the

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<sup>40</sup>Smith, The Politics of East-West Trade, p. 7.

<sup>41</sup>Smith, The Politics of East-West Trade, p. 8.



balance is shifting towards the Soviets. A flow of Western technology to the East has given--and continues to give--major impetus to that shift.

So, why is the Department of Defense interested in East-West economic relations? They are interested because this is an area of international economics where strategic considerations must be taken into account and where a policy based on commercial considerations alone may seriously undermine the national security of the United States and of our allies.

Soviet economic gains from international trade are heavily weighted on the side of the military community which in effect allows the East to threaten the West with its own technology. As discussed earlier, the Soviets have been importing--by legal as well as illegal means--Western technology that they continue to assure us will be used in only civilian applications, yet the CIA reports that much of this imported technology is going directly into their military (especially computers, microelectronics, and new composite materials).<sup>42</sup>

This point was clearly brought out in a March 1983 Department of Defense report, Soviet Military Power:

The flow of Western technology, equipment and materials to the Soviet Union has made a considerable contribution to Soviet military-industrial capabilities. Industrial machinery and products for the civilian industry often directly support the defense industries. Since a significant amount of defense production occurs in the machinery sector, it is likely that at least half of the

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<sup>42</sup>Smith, The Politics of East-West Trade, p. 160.

machinery acquired from the West contributes to defense production . . . and greatly facilitated the development and serial production of modern weapons. For example, since the mid-1970's, the U.S., its Western allies and Japan together have been the source of one-fourth of total Soviet machinery imports. This one-fourth represents the most advanced machinery that the Soviets have been able to acquire. More than 40 percent of these Western machinery imports have been for the metalworking and chemical industries--major contributors to Soviet defense production. Much of the remainder of Soviet machinery imports were acquired from East European sources, the technology of which generally falls well below that of Western and Japanese machinery.<sup>43</sup>

(See Table 6.1.)

Secretary Weinberger has drawn specific strategic implications from these facts of international economic life. He has noted that the assistance which East-West trade provides to Soviet military growth increases the threat to Western security and the cost of the defense burden borne by the American and European taxpayer. The Secretary has stated that because trade with the West affects the Soviet economy, we and our allies must devise trade policies "with full awareness of the security interests at stake." He adds that although the West may gain some economic benefits from these trade relations, leaving them to be determined by private market forces is bound to work to the disadvantage of the West.<sup>44</sup>

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<sup>43</sup>Department of Defense, Soviet Military Power, 1983, U.S. Government Printing Office, Washington, D.C., March 1983, pp. 75-76.

<sup>44</sup>Department of Defense, Soviet Military Power, Second Edition, March 1983, p. 75.

TABLE 6.1<sup>45</sup>

SOVIET IMPORTS FROM NATO COUNTRIES AND JAPAN BY MAJOR  
MACHINERY IMPORTS CATEGORIES, 1976-1980 AND 1981  
(Percent)

Major Machinery Import Categories	1976-1980 (annual average)	1981
Chemicals	32.1 <sup>1</sup>	15.7
Metalworking	9.7	12.1
Heavy Vehicles	3.7	11.5
Oil Drilling & Exploration	3.5	3.9
Other Machinery <sup>2</sup>	51.0	56.8
TOTAL	100.0	100.0

<sup>1</sup>These imports of Western chemical equipment represent 67 percent of the total Soviet investment in chemical equipment over the 5-year period 1976-1980.

<sup>2</sup>Includes over 20 sub-branches of machinery production, ranging from power machinery and precision instrumentation to machinery for the light and food industries.

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<sup>45</sup>Department of Defense, Soviet Military Power, 1983, p. 76.

This last viewpoint is fully shared by our NATO allies. The June, 1983 NATO Council communique specifically noted that East-West economic relations have security implications and should be conducted on a commercially sound and mutually advantageous basis. NATO pointed out

bilateral economic relations with the Soviet Union and the countries of Eastern Europe must be consistent with broad allied security concerns. These include avoiding dependence on the Soviet Union or contributing to Soviet military capabilities. . . . The allies will remain vigilant in their continuing review of the security aspects of East-West economic relations.<sup>46</sup>

Thus, the Department of Defense and the Reagan Administration as a whole favor a carefully balanced combination of commercial and strategic considerations in developing trade policy toward the Soviet bloc. The Reagan Administration rejects both the extremes of economic warfare and the indiscriminate trade with our adversary. In line with the President's commitment to free international trade and peaceful relations among all countries, the Administration does not favor trade as a weapon. There is no intention of trying to exacerbate endemic weaknesses in the Soviet economy. The Administration favors continued trade with the Soviet bloc where this works to the advantage of our country and of our citizens. For example, the U.S. negotiated a

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<sup>46</sup>See NATO, North Atlantic Council, NATO Information Service, Brussels, 1981- . . . Texts of communiques and declarations issued after meetings held at ministerial level.

long-term grain agreement with the U.S.S.R., signed by Agriculture Secretary Block in Moscow in August 1983.<sup>47</sup>

But the Administration is also tightening the reigns in areas where economic gains to the West are offset by strategic losses. President Reagan has made clear that we will not again allow our hopes for greater political and economic cooperation with the U.S.S.R. to obscure the realities of continuing political and military competition. Therefore, in assessing East-West trade proposals, he feels the U.S. must balance the potential economic benefits to certain firms and economic sectors against the possible losses to Western security.<sup>48</sup>

The Administration is seeking a long-term American and alliance strategy on East-West economic relations that has the coherence and depth of our military strategy. Specific economic measures should be keyed to this perspective and not merely to immediate events, such as those taking place in Poland and Afghanistan. It is interesting to note that two prominent Americans with much experience in international economic relations have recently adopted a similar position. Former Secretary of State Henry Kissinger in a speech before the Georgetown University Center for Strategic and International Studies has called for greater emphasis on economic security in NATO policy-making. In November of

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<sup>47</sup>Joshua, Arms for the Third World, p. 163.

<sup>48</sup>Smith, The Politics of East-West Trade, p. 164.



1982, Henry Ford II told the American Chamber of Commerce in London that the time had come

for the countries in the Western alliance . . . to develop a strategy and a mechanism for enhancing our economic security in the same way we fashioned NATO in 1949 to enhance our military security.

Ford stated that Western businesses, as well as governments, would benefit from an "economic NATO" that would allow the democracies "collectively to respond to the economic strategies of the East."<sup>49</sup>

The turning point in U.S. policy on East-West trade came with the end of the dispute over the Siberian gas pipeline. The President's firm stand against the Siberian pipeline and his sanctions against the sale of oil and gas technology to the Soviets were withdrawn after intensive discussions with our allies. However, they led to a common Western review of policies toward East-West trade. The United States and its allies have reached new agreements on overall East-West trade in NATO, on energy security in the International Energy Agency, on subsidized credits in the Organization for Economic Cooperation and Development (OECD), and on the transfer of strategic technology in the International Coordinating Committee (COCOM) in Paris.<sup>50</sup>

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<sup>49</sup>Smith, The Politics of East-West Trade, p. 164.

<sup>50</sup>Smith, The Politics of East-West Trade, p. 164.

## E. CONCLUSION

This chapter has examined Soviet trade with the West and some of the mechanisms that are involved in trading with an enemy. The use of sanctions and other measures to reduce the security risks involved usually results in the Western allies reconsidering the efficiency and practicality of such actions and as a result we enter into new phases and variations of East-West trade.

## VII. DEFENSE DEPARTMENT CONCERNS

### A. INTRODUCTION

The Defense Department has specific concerns in each of three general areas--credits, energy, and technology transfer.<sup>51</sup> This chapter will look at these three areas and their effects on U.S. national security.

### B. CREDITS

Our overall goal is to reduce the benefits of East-West trade to the Soviet "military machine." To accomplish this, the most direct method would be to terminate Western loans to the Soviet Union. The significance of officially supported credits goes far beyond the relatively small amounts of lending actually extended by Western governments. The Soviet bloc is in serious financial trouble. Countries such as Poland, Romania, and East Germany may never, according to some reports, be able to repay their burgeoning debts to the West. As a result, Western banks have all but ended any new lending to East European countries. The Soviets, themselves, face dire economic straits. Without the continuation of officially supported Western credits to the U.S.S.R., Western banks will likely abstain from further lending to Moscow. Under these circumstances, the

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<sup>51</sup>Smith, The Politics of East-West Trade, p. 164.

Administration sees the encouragement of additional Western lending to Moscow as financially imprudent and politically indefensible (see Table 7.1).

The goal of the Reagan Administration is to put East-West trade on a more businesslike foundation based on the changing political and strategic environment. It is time to put a stop to the unseemly competition between Western states for soviet trade, including cut-rate credit offers. The most dramatic example of such is Soviet energy development projects. If the Soviets are a good credit risk, let them pay the prevailing market rates! If they are as poor a credit risk as I have hinted at, let them pay cash! An agreement by OECD members in 1983 to change the interest rates that the Soviets must pay has gone a long way towards ending the most unreasonable subsidies which Moscow received during the 1970's. President Reagan appears to be willing to continue these efforts and is attempting to get more of our allies on board in supporting his efforts.

There is also a domestic side to this predicament--the question of judgment in providing subsidizing credits to the Soviet Union. At a time when Western economies in many parts of the world are still recovering from a severe recession, it is unfair that Western taxpayers should have to bear the cost of subsidizing the Soviet military buildup as

TABLE 7.1

NET HARD CURRENCY DEBT OF SELECTED COMMUNIST COUNTRIES: 1970-1980  
(Billion Dollars)

Country	1970	1974	1975	1976	1977	1979	1980
Bulgaria	.7	1.2	1.8	2.3	2.7	3.9	4.3
Czechoslovakia	.3	1.1	1.5	2.1	2.7	4.2	5.0
East Germany	1.0	2.8	3.8	5.2	6.0	10.5	12.0
Hungary	.6	1.5	2.1	2.8	3.4	8.1	7.6
Poland	.8	3.9	6.9	10.2	13.0	21.0	24.0
Romania	1.2	2.6	3.0	3.3	4.0	6.8	9.0
Total East Europe	4.6	13.1	19.1	25.9	31.8	54.5	61.9
U.S.S.R.	1.9	5.0	10.0	14.0	16.0	16.5	15.2

SOURCES: 1970-1977: Office of Economic Research, CIA.

1979-1980: Business Week (February 16, 1981), p. 86.



well as paying the cost of responding to the Soviet threat with an expensive defensive buildup of their own.<sup>52</sup>

### C. ENERGY

Second, the Defense Department is concerned about strategic implications of Western dependence on Soviet energy. There are two problems here. First, Soviet energy exports help finance the Soviet military buildup. Indeed, over one-half of all Soviet foreign exchange earnings come from oil and gas exports to the West, primarily Europe. The Soviet system is much less efficient in the civilian sector than is the military. For the last decade the U.S.S.R. has sought to remedy this defect in its economic system by buying both goods and know-how in the West. For this the Soviets need a steady stream of hard currency from the West. In the past, they could supplement their sales of raw materials by borrowing from Western governments and financial institutions. Now, with the growth of both the Soviet and Eastern European debt, this is less possible. Energy exports to Western Europe have become all the more critical to Moscow and help it avoid the choice between guns and butter.

Moreover, increased Western dependence on Soviet energy exports will give the Soviets a potential critical strategic leverage against NATO. In principle, each side could use the energy relationship for leverage against the other; in

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<sup>52</sup>Smith, The Politics of East-West Trade, p. 165.

fact, the differences between democratic and authoritarian political systems indicate that Western European governments would be more sensitive to a threatened cutoff of, or reduction in, energy supplies than the Soviets would be to a threatened loss of hard currency earnings from those sales. Consumer demands on European governments would be supplemented by demands from business and labor groups nervous about the possible loss of future profits and jobs associated with the sale of steel pipe and other energy-related equipment to the Soviet Union. This suggests that Soviet hints of a cutoff or slowdown in oil and gas delivery--couched, of course, in terms of "technical problems" or "emergency domestic requirements"--could bring about important Western concessions on economic or even security issues.

It is interesting to note that in 1980 the Soviets stated that Western Europe and Japan would risk losing Soviet fuel supplies if they joined the U.S.-led economic sanctions imposed after the invasion of Afghanistan. This may have been one factor in European hesitation to support the sanctions strongly.

These considerations explain why the United States and its allies are working toward more rapid development of indigenous Western energy sources. The U.S. has attempted to encourage the development of North Sea energy sources, particularly gas. It is clear that Western economic

recovery and security will be more stable if Western countries invest in North Sea energy development than if they continue to subsidize the build-up of the Soviet energy infrastructure.<sup>53</sup> This appears to be a battle that the Reagan Administration will win in the long run.

#### D. TECHNOLOGY TRANSFER

As already discussed in Chapter IV, the most critical area of specific Defense Department concern in East-West economic relations is the question of the transfer of militarily-applicable Western technology to the Soviet Union.

Behind the open Soviet-Western competition in specific weapon systems there is a less well-known but vital rivalry --what we might call a "quiet war" for superiority in military technology. This is a war in which the Soviet bloc supplements its own technological advances by a major effort to acquire militarily-applicable Western technology. It is a competition in which the Soviet Union tries to turn the openness and freedom of Western societies against the West. In turn, the West tries to protect its technological edge, and hence its military security, without infringing upon legitimate East-West trade.

The United States Government is concerned about technology transfer because of the many military implications

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<sup>53</sup>Smith, The Politics of East-West Trade, p. 166.

associated with this type of transfer. Soviet leaders know that the West has always counted on its technological edge to offset the Eastern lead in numbers of weapons and in manpower. If the Soviets can neutralize this edge, they can achieve overall military superiority.

As Assistant Secretary of Defense Richard Pearle has pointed out, the Soviets gain great benefits from exploiting Western technology by saving research time and money, avoiding our mistakes, and knowing in advance which technologies are proven and likely to work. He notes that, "At no previous time in history has one nation been able to prey so deeply and systematically on the fruits of its adversary's genius and labor."<sup>54</sup>

The Soviet effort to acquire this technology has been wide-ranging and thorough. The Soviet Union has used three major approaches: legal purchases of militarily-applicable Western technology; illegal acquisition of technology through violation of export laws and through espionage; and exploitation of open sources of information. The results have been impressive from the Soviet standpoint; distressing from our own. U.S. defense experts are alarmed by the number of Soviet weapon systems that contain Western technology, including missile guidance systems, night-vision devices, and anti-submarine warfare (ASW) sonobuoys.

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<sup>54</sup>Walter Guzzardi, Jr., "Cutting Russia's Harvest of U.S. Technology," Fortune, May 30, 1983, p. 112.

Over the past 15 years, the Soviets have acquired from the West technical capabilities offering a significant contribution to their military build-up and defense industries.

In certain fields, the Soviet bloc has narrowed its technology gap with the West from 10 years to within two years--and has done so in just the past three or four years. As Bob Raggett, the yearbook editor of Jane's Military Communications, observed, "The irony of the situation is that the more advanced and sophisticated Western electronic hardware becomes, the easier it becomes for the Soviet Union to acquire it."<sup>55</sup> For example, a decade ago the U.S.S.R. was very weak in microelectronics and computer technology. Raggett verifies that "Advanced Western component and integrated circuit manufacturers . . . have discovered direct copies of their classified circuit chips in Soviet electronic equipment."<sup>56</sup> Yet, aware that NATO forces depend extensively on microelectronics and computers for everything from smart weapons to command and control, the Soviets sought to import the key technical and industrial elements to give them a similar capability. Today, the result of these efforts is becoming evident. Soviet strategic and conventional weapons are using Western microelectronics and Western computer designs to enhance their performance. In the Spring of 1983 West German TV viewers were surprised

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<sup>55</sup>Smith, The Politics of East-West Trade, p. 3.

<sup>56</sup>Smith, The Politics of East-West Trade, p. 171.



when they were told that half of the technology in the Soviet SS-20's aimed at them came from the West.<sup>57</sup>

To help counter this challenge the Department of Defense, in cooperation with other federal agencies, has undertaken major programs at home and internationally to curb what until recently had been a virtual hemorrhage of strategic technology to the East. The export control program of the Reagan Administration has stressed three main elements: First, strengthening our domestic programs by improving efficiency, building up analytical and informational skills and tightening enforcement, including the highly successful Project Exodus, run by the U.S. Customs Service. Second, improving the international technology control program which is centered in the International Coordinating Committee (COCOM). Proposals have been presented to strengthen controls over key technologies and undertake institutional changes that will tighten enforcement by member nations. Third, stemming the flow of technology through conduits outside the COCOM system--that is, through neutral and non-aligned nations which have become favored illegal re-export points for moving Western high technology equipment into the Soviet bloc.<sup>58</sup>

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<sup>57</sup>Smith, The Politics of East-West Trade, p. 171.

<sup>58</sup>Smith, The Politics of East-West Trade, p. 173.

## E. CONCLUSION

Thus, American efforts at export control and limiting the extension of credits to the Soviet bloc and Western energy security are parts of an overall program to establish an appropriate balance between commercial and strategic considerations in our East-West trade policy. They represent a middle course that takes account of the strategic importance of trade with the East but rejects a return to the extensive and cumbersome controls of the Cold War.<sup>59</sup>

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<sup>59</sup>Smith, The Politics of East-West Trade, p. 173.

## VIII. THE EAST-WEST TRADE POLICY OF THE UNITED STATES

### A. INTRODUCTION

The present state of U.S. trade policy toward Communist nations reflects the ambivalence and dissension which has characterized the U.S. position towards the Eastern bloc during the past thirty years. Most of the basis for present trade programs were designed at the height of the Cold War--a period in which suspicions ran high with regard to the Communist world's intentions. The early trade legislation was designed to throw a virtual trade embargo net over the Soviet Union and its allies. Since that time, however, history has changed several things that require a new look at these policies: 1) the United States has lost much of its leverage with its Western trading partners and is no longer able to impose a unified trading posture within the Western alliance; 2) the communist nations themselves are now more independent and free of its apron strings to Moscow and as a result cannot be treated as a monolithic bloc of communist nations; and 3) there has been an overall improvement in East-West relations. Together, these developments have led to changes in the way that the West deals with the Communist world and the policies that have been developed to guide these relations so as to avoid unnecessary security risks and undue economic hardships in dealing with the East.

This chapter will explore the history of Western export and licensing controls from the Export Control Act of 1949 through the policies of the 1980's. In this chapter and throughout this study these issues will be critiqued and substitutes will be offered to our present policies.

## B. LAWS AND AMENDMENTS

When the United States decided to exert strict peacetime controls over its exports to certain countries in the name of national security, it entered into a new era of U.S. foreign and national security policy. The Trading With the Enemy Act of 1917 granted the President power to impose export controls in time of war or, with the consent of Congress, national emergency.

At the end of World War II, the Export Control Act of 1949 emphasized the danger to U.S. national security of the unrestricted export of materials without regard to their potential military significance and declared it to be the policy of the United States to "exercise the necessary vigilance" over exports to deny militarily useful exports to the Soviet Union and its allies. The effect of this act was to make exporting a privilege and not a right, and it signaled a policy in which national security considerations took precedence over the economic advantages of foreign trade.<sup>60</sup>

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<sup>60</sup>See R.J. Carrick, East-West Technology Transfer in Perspective, Policy Papers in International Affairs, University of California, Berkeley, California, 1978, p. 25.

In October 1951, the United States attempted to enforce a united Allied approach to trade with the Communist bloc with the passage of the Mutual Defense Assistance Control Act of 1951, also known as the Battle Act (Public Law 87-195). The Battle Act had two purposes. First, it reaffirmed the objectives of the Export Control Act by clearly stating a policy in which trade was to be used as a weapon against the Soviet bloc. This act declared it to be U.S. policy to regulate the export of commodities other than arms, ammunition, implements of war, etc., "to oppose and offset by nonmilitary action acts which threatened the security of the United States and the peace of the world" (sec. 201).

But of even more significance was that the Battle Act formally announced the intention of the United States to seek multilateral cooperation in the implementation of this policy.

Unfortunately, Allied response to the Battle Act was never enthusiastic. Europeans could not accept that denying trade with the East would put an end to communism or even curtail the Communist countries' development. In more pragmatic terms, trade with Eastern Europe was a matter of no small consequence to our West European partners.<sup>61</sup>

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<sup>61</sup>Hearings on H.R. 4293 to extend and amend the Export Control Act of 1949, Committee on Banking and Currency, 1969, p. 4.



During the early 1960's, pressure from Europe and from some parts of the U.S. business community led to a major reevaluation of U.S. export policy.

President Kennedy, for example, in his January 30, 1961 State of the Union address, requested greater discretion for using "economic tools . . . to help reestablish historic ties of friendship" between the United States and the Eastern bloc whenever this was "clearly in the national interest."<sup>62</sup> In order to facilitate any resulting trade, Kennedy ordered the formation of the Export Control Review Board, a cabinet-level body that would review and consider the merit of applications for exports to the Communist world. In any event, however, the Cold War had not thawed enough and there was no major change in policy during the 1960's.

By the time of the first Nixon Administration, however, the policy of "economic warfare" had come under increasing attack. The economic leverage on which the Battle Act relied had been greatly diminished by the rapid reconstruction of the Japanese and West European economies and the subsequent reduction in their need for U.S. aid. By now Americans were growing weary of the Cold War and coupled with their frustration in not being able to compete with the Japanese and West Europeans in the Communist marketplace

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<sup>62</sup>Department of State, The Battle Act in New Times, 15th Report to Congress, p. 5.

because of the Battle Act restrictions, Congress responded in their behalf. Also, in consideration of the exploding balance of payments deficit and the growing commercial value of an East-West trade that the U.S. was not participating in, Congress saw fit to liberalize export controls. This resulted in the passage of the Export Administration act of 1969 (Public Law 91-184). This act symbolized the attempt to achieve a new emphasis for export controls--to move away from restrictive embargoes towards a carefully planned expansion of exports to the Soviet Union and its allies.

The Export Administration Act expired in 1972, at which time it was amended and extended until 1974 by the Equal Export Opportunity Act (Public Law 92-412). Consideration of the Export Administration Act in 1974 occurred in the aftermath of the OPEC oil embargo, economic recession, and serious domestic shortages in several commodities. Although the discussions in both Houses were understandably dominated by the issue of short supply controls, Congress also passed amendments that had an impact on the transfer of technology through national security and foreign policy controls.

At the height of detente, many U.S. companies entered into technical cooperation agreements with the Soviet Union, some of which called for the exchange of pure, uncensored technology. Under the existing legislation the Department of Commerce and other agencies of the Government concerned with export control were not informed of the details of

these technical cooperation agreements until they led to application for export licenses. This made it difficult for the Government to effectively discharge its export control responsibility.

A final amendment called for review by the Secretary of Defense of all exports to "controlled" countries (i.e., Communist countries). The Secretary was empowered to recommend to the President disapproval of any export if it would significantly increase the military capability of a controlled country. A Presidential decision to override the Secretary of Defense was to be submitted to Congress, which had 30 days in which to overrule the President's decision by majority vote. These provisions were designed "to ensure that DOD has an adequate opportunity to consider the military and national security implications of exports to Communist countries and that the Congress has a voice in the decision in the event of White House and DOD disagreement."<sup>63</sup>

The 1977 amendments extended the Export Administration Act until September 30, 1979. But by September 1978, attempts were already underway in the House of Representatives to produce legislation that would impose conditions more restrictive to the growth of East-West trade.

Ultimately, after much debate, H.R. 4034 reported out of committee. It explicitly distinguished the criteria and

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<sup>63</sup>U.S. Congress, Senate Committee on Banking, Housing, and Urban Affairs, Export Administration Act Amendments of 1974, Report No. 93-1024, July 22, 1974, p. 9.

procedures in the use of national security and foreign policy export controls. National security controls were designed to ". . . prevent the acquisition or delay (the acquisition) by hostile or potentially hostile countries of goods and technology which would significantly enhance their military capabilities to the detriment of U.S. national security."<sup>64</sup>

### C. SUMMARY AND COMMENTS

The present Export Administration Act is the embodiment of a policy of encouraging trade with the Communist world. The Government purports that it is designed to also protect U.S. national security and allows the President flexibility in the use of export controls to further foreign policy aims. The fact is, that time and time again the use of trade and technology "sticks" and "carrots" as a foreign policy tool in dealing with the Communist camp is a lost cause. The fact that there have been so many amendments and changes to the Act over the years should say something to the effectiveness of this policy. Let us remember, the technology we allow the Soviets and their allies access to, will in turn one day be aimed back at us in the form of a weapon system--the West is in conflict with the East--it may be a peaceful conflict today, but who can say that tomorrow

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<sup>64</sup>House Committee on Foreign Affairs, Report on the Export Administration Act Amendments of 1979, Report No. 96-200, May 15, 1979, p. 7.

it will not change into a hostile conflict? The Communist world is the West's enemy--like it or not, they will remain our enemy until one of the two social systems change. And this is not likely to occur by peaceful means--so I must question our wisdom in supporting a policy that encourages trade with our enemy.

The answer is possibly not as far to the right as I may appear to be standing. But it is certainly not as liberal as our present policy. It, in my opinion, lies somewhere close to the Mutual Defense Assistance Control Act or Battle Act of 1951. Richard Pearle correctly appraises the situation by suggesting that the security of the United States, its allies and its friends depends to a significant degree on the West's ability to preserve its advantage over the Soviet Union and the other Warsaw Pact nations in militarily relevant technology. He goes on to say, that if the West is to maintain a margin of safety, it will have to be a technological margin.<sup>65</sup> Should the West fail to take such action, the prospect is for a continuing erosion of our qualitative lead, which could ultimately turn the West's margin of security into a Soviet margin of decisive advantage.

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<sup>65</sup>Richard Pearle, "The Eastward Technology Flow: A Plan of Common Action," Strategic Review, Spring 1984, p. 32.



## IX. THE FUTURE OF EAST-WEST TRADE

### A. INTRODUCTION

The Soviet invasion of Afghanistan, the declaration of martial law in Poland and the more recent chilling of U.S.-Soviet relations, be it for the arrest of Mr. Danilov, the recent run on U.S. citizens caught spying for the Soviets, or just general disagreements on human rights issues, has caused a general reassessment of East-West trade and technology transfer. Western governments now seem more aware of the security issues at stake associated with a liberal trade policy than they did during the height of detente.

The future course of East-West trade and technology transfer is a difficult item to predict in the international environment. The economic climate will depend largely on the political climate generated in the Kremlin and White House during the next few years. Western leaders may possibly continue to try and link East-West commercial cooperation with items such as Soviet "good faith" in strategic arms negotiations or disengagement in various Third World countries. However, even if we saw a normalization of U.S.-Soviet relations in the near future, it would be unlikely that there would be a return to the climate of cooperation experienced during the era of detente.

## B. INFLUENCING FACTORS

The factors that caused the warmth of detente were several unique and well-timed events that would be difficult to duplicate in their entirety. There was a special blend of leadership in both camps that had the right chemistry to allow detente to thrive. There were economic considerations on both sides that sought to limit the costly arms race since strategic parity had been achieved. The Soviets were anxious to stimulate their sluggish economy with a strong dose of Western technology. To achieve these goals required enhancing East-West cooperation.

Compounding these factors was the energy crisis. The Soviet Union represented a major potential source of oil and gas for the West, especially Western Europe which has been hurting for a new energy source since the OPEC embargo. The result of Western banks' willingness to extend credit to the Soviet bloc and a special mix of domestic and international political, economic, financial, and strategic factors resulted in a strong surge in East-West trade during the 1970's.

While predicting the future of East-West trade with any assurance of even "ball-park" accuracy is impossible, it is of value to economists, government officials and commercial interests to be aware of the factors which are likely to promote or retard East-West technology flows during the next several years.

### C. THE THIRD WORLD WAR! CALL IT PEACEFUL COEXISTENCE

In reporting my research on East-West trade, I would be remiss if I did not add my own bottom line. If one is looking for a bottom line in this study, I apologize for hiding it here at the end. As I have already eluded to, the future of East-West trade is impossible to predict--but, one thing is certain in East-West trade; that is, in order to have successful trade both parties must be willing participants. Given the vast ideological differences between the East and West, one must certainly expect the necessity of the two systems to first reenter into an era of detente to fully "enjoy" the fruits of East-West trade. Hopefully this aspect of international relations will not reoccur. Let us remember that communism is the enemy; "to coexist with communism on the same planet is impossible. Either it will spread, cancer-like, to destroy mankind, or else mankind will have to rid itself of communism (and even then face lengthy treatment for secondary tumors)." <sup>66</sup> Aleksandr I. Solzhenitsyn suggests that the Soviet leaders would indeed be quite eager and prepared to carry on detente; "why shouldn't they?" he asks.

Detente will continue to stand Soviet communism in very good stead: for the purpose of stifling the last flicker of dissidence in the Soviet Union and buying up whatever electronic equipment is necessary. . . . Communism will

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<sup>66</sup>Aleksandr I. Solzhenitsyn, The Mortal Danger: How Misperceptions about Russia Imperil America, 2d ed., Harper & Row, New York, New York, 1981, p. 1.

never be halted by negotiations or through the machinations of detente."<sup>67</sup>

To continue to trade with the East which, in effect, will benefit the "enemy," we extend what Solzhenitsyn describes as

a real war that has been going on for thirty-five years in which there has been a long string of Western retreats and the loss of more than twenty countries, and yet the West persists in referring to this Third World War as "peaceful coexistence."<sup>68</sup>

Solzhenitsyn goes on to suggest that the West continues to pin its hopes on a spurious "detente," which for the Soviets is the most convenient form of protracted warfare, and the one most likely to end in victory. The Soviet leaders would certainly prefer to achieve their international objectives by means of "detente," terrorism and coups d'etat: why should they desire a global war, especially a nuclear one?

#### D. CONCLUSION

The whole structure and foundation of Communist power, which today threatens the world, would have been impossible without the equipment and technical assistance and direct Western economic aid to the Soviet bloc that was given in the post-World War II years on up to today.

Let us hope that some future historian will not have to write that, by continuing to share the means of economic power with the Soviets without troubling to pose certain

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<sup>67</sup>Solzhenitsyn, The Mortal Danger: How Misperceptions about Russia Imperil America, p. 37.

<sup>68</sup>Solzhenitsyn, The Mortal Danger: How Misperceptions about Russia Imperil America, p. 124.

elementary political conditions, the great Western nations made themselves the instruments of their own destruction.<sup>69</sup>

The answer to the question "what of the future of East-West trade?" will remain a volatile subject; the situation that the West finds itself in will require bold decisions by outstanding leaders and a rejection of routine thinking.

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<sup>69</sup>Thomas J. Dodd, Senator, Introduction to the subcommittee of the Committee on the Judiciary Report, "The Many Crises of the Soviet Economy," June 2, 1964.



## X. CONCLUSIONS

The United States and its allies have a challenge to maintain a military capability sufficient to convince the Soviets that the costs of aggression far outweigh any possible gain. Together we must be firm in our resolve to support and defend, when necessary, the security of all free nations. Thus far, it appears that our strategy of nuclear and conventional deterrence has been effective in preventing major war. We should keep in mind, however, that as each day passes a stagnant deterrence strategy without improved technologies allows other factors such as political and economic issues to have more weight in the strategic balance equation, an equation that if allowed to go unchecked in today's world could in effect destroy the world as we now know it. It is therefore important that the West not allow its strategy of deterrence to stagnate or suffer due to technology transfer to the East which would in turn upset the balance of strategic options to the West. It is incumbent upon the United States and its allies to have a full and precise understanding of the Soviet challenge as we take the steps necessary to preserve our freedom, to ensure an effective deterrent to the threat and use of force, and, at the same time, to seek genuine and equitable arms reductions. The environment that this somewhat optimistic goal,

given recent history (the past 200 years), would develop, is clouded with issues of differing political and economic issues--free trade vs. export controls to monitor the flow of military technology that could be used against us by our enemies in time of war. And again the issue that anything we do to aid the East will, in effect, have a negative impact on us, even if some benefits occur as well. To attempt to provide an all-encompassing economic policy towards the East in this study would be a futile exercise, because it could never include all the circumstances and conflicting pressures facing Western governments. It is clear, however, that the sale of military equipment to potential adversaries is not in the U.S. national interest. In 1980, Senator Henry Jackson (D-Wash.) said,

The evidence has accumulated in recent months that our export system is a shambles. What we haven't sold (the Soviets) we have given away in educational, governmental, and commercial technical exchange programs. What we haven't sold or given away, they have stolen.

The thought I want to leave the reader with is not that I advocate the cessation of U.S. economic contracts with the Soviet Union. There are a lot of commercial applications of East-West trade that do not detract from our national security or that of our allies, and to terminate all commercial interaction with the East would serve no purpose. But there does seem to be room for vast improvements in our efforts to insure that our export policies governing

technology transfer to the East is better suited to supporting our national strategy and protecting the national interest.

We should refrain from using "economic diplomacy," that is, offering technology transfers to the Soviet Union as an incentive to moderate its behavior and deny it as a punishment for hostile acts. "Economic diplomacy" is no substitute for a well thought out deterrence policy, and common sense should dictate that anything the Soviets might want bad enough to forego opportunities for expansion is probably something they should not have in the first place.<sup>70</sup>

The West must join together to prevent the flow of vital military technology to the East. The U.S. acting alone could not prevent such diversions of technology and equipment as we no longer have a monopoly on technology in the West. The cooperation of our partners in COCOM is therefore of greater importance more now than ever. And it is clear that in order for the U.S. to continue to enjoy this cooperation of its allies in denying strategic technology to the Soviet Union, we must set an example of trade restraint in the sensitive areas. In fact, the relaxation of U.S. controls during the 1970's is a major reason for the diminishing effectiveness of COCOM,<sup>71</sup>

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<sup>70</sup>Carl Gerishman, "Our Technology to Russia for Profit," Business and Society Review, Winter 1979-1980, p. 35.

<sup>71</sup>Gerishman, "Our Technology to Russia for Profit," p. 35.

something that the Reagan Administration has sought to correct, but a true all-out effort has yet to be seen and is in my opinion one of the first orders of business that deserves the West's immediate attention.

Capitalism is indeed more efficient than Communism, but if this very efficiency is used to sustain and fortify the enemies of free society, does this not, in the words of Seymour Martin Lipset, constitute "the ultimate failure of capitalism?" As was agreed to at the Williamsburg Summit, "East-West economic relations should be compatible with our security interests." In the end, the United States will gain more by seeking a new allied consensus than by pursuing unilateral, hit-or-miss restrictions. As matters now stand, allied disarray over East-West trade will do real damage to Western security by undermining the alliance itself.<sup>72</sup>

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<sup>72</sup>Ellen C. Frost and Angela E. Stent, "NATO's Troubles With East-West Trade," International Security, Summer 1983, Vol. 8, No. 1, p. 200.

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